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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/015,307	12/12/2001	Franklin Zhigang Zhang		5559

7590 10/19/2005
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EXAMINER

BUI, HUNG S

ART UNIT	PAPER NUMBER
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2841

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/015,307

Applicant(s)

ZHANG, FRANKLIN ZHIGANG

Examiner

Hung S. Bui

Art Unit

2841

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-18 and 20-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-18 and 20-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 11, 13, 20-21 and 24-25 are objected to because of the following informalities:

- Claim 11, line 7, "the said on computer" should be corrected as – the said computer --;
- Claim 13, line 1, "the on computer" should be corrected as – the computer --;
- Claim 20, lines 1-2, "onto sided on PCB" should be corrected as – onto said PCB --;
- Claim 21, line 5, "means" should be corrected as – means. --;
- Claim 24, line 6, "claim 18" should be corrected as – claim 18. --; and
- Claim 25, a dependency of claim 25 should not depend on claim 28.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 11-18, 20 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe [US 5,907,478] in view of Larson [US 6,192,577].

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Regarding claims 11 and 20, Watabane discloses an EMI shield expansion housing apparatuses (1, figures 2-3) for an add-on expansion daughter board (column 3, lines 5-10) for computer system board comprising:

- an on computer system board PCB shield zone (an area under the EMI shield housing 1);
- a metallic expansion housing cover (column 3, line 6); and
- wherein said add-on expansion daughter board is enclosure by said computer system board PCB shield zone, said metallic expansion housing cover is soldered onto said computer system board PCB shield zone covering the said add-on expansion daughter board (figure 3).

Watabane disclose the instant claimed invention except for the EMI shield housing being completely soldered onto said PCB shield zone.

Larson discloses an EMI shield housing (3) being completely soldered onto a shielding zone on a PCB (1, figures 3-4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the EMI shield housing design of Larson for the EMI shield housing of Watabane, in order to be completely shield the daughter board in the computer system.

Regarding claim 12, Watabane disclose the instant claimed invention except for a conductive surrounding zone being formed of copper.

Larson further discloses the PCB including a surrounding zone being formed of copper (column 8, line 26).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a conducting material with copper in Watabane, as suggested by Larson, for the purpose of grounding the expansion daughter board.

Regarding claims 13-14, Watabane further discloses at least one connector (9) being soldered on the PCB (figures 2-3) for installing of said add-on expansion daughter board.

Regarding claim 15, Watabane discloses said connector(s) being provided mechanical support for attaching the said add-on expansion daughter board onto the computer system board.

Regarding claims 16-17, Watabane further discloses said add-on expansion daughter card including at least one connector (3) for attaching to the corresponding said connector(s) mounted thereon the PCB (figure 3).

Regarding claim 18, Watabane discloses the metallic expansion housing cover having an open base that can be soldered onto the corresponding solderable surrounding zone of the PCB (figures 2-3).

Regarding claim 24, Watabane, as modified, disclose the instant claimed invention except for the computer system having a plurality of completely EMI shield housing.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the computer shield housing of Watabane in view of Larson, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

4. Claims 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe [US 5,907,478] in view of Larson [US 6,192,577] and Persson et al. [US 6,138,347].

Regarding claims 21-22, Watabane in view of Larson disclose as recited in claim 11 and does not disclose said complete EMI shield expansion housing apparatuses having a plurality of heat conduction means.

Persson et al. disclose an EMI shield system having a shield housing (310) enclosed a printed circuit board (240) including a plurality of heat conduction means (100) mounted between the cover of the shield housing and the printed circuit board (figure 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the heat conduction means member with the expansion housing of Watabane in view of Larson, as suggested by Persson et al., for the purpose of dissipating heat from the PCB.

5. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watabane, as modified, as applied to claim 21 above, and further in view of Toy et al. [US 5,982,038].

Regarding claim 23, Watabane, as modified, disclose the instant claimed invention except for the shield housing being covered by a heat sink.

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Toy et al. disclose a heat sink apparatus (figure 1) having a heat sink (25) being mounted on a shield housing (20) covered a shielding zone on a printed circuit board (10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the heat sink with the shield housing of Watabane, as modified, as suggested by Toy et al., for the purpose of dissipating heat from the board.

6. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe [US 5,907,478] in view of Larson [US 6,192,577] and Lettang [US 6,362,974].

Regarding claim 26, Watabane in view of Larson disclose as recited in claim 11 and does not disclose said plurality of computer shield housing being stacked together.

Lettang discloses an apparatus having a plurality of motherboard being stacked together by connector means (25, figure 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to make a plurality of computer shield housing of Watabane in view of Larson, as suggested by Lettang, in order to provide more function for the computer system.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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- Dolbear [US 5,907,474] discloses a low profile heat transfer apparatus for a surface mounted semiconductor device employing a ball grid array (BGA) device package;
- Castaneda et al. [US 5,596,487] disclose apparatus for RF shielding radio circuitry;
- Andric et al. [US 6,504,243] disclose removable heat transfer apparatus for a pin grid array (PGA) device, and associated installation and removal methods; and
- Suzuki [US 6,775,151] discloses structure for mounting an electronic circuit unit.

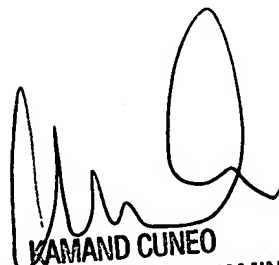
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung S. Bui whose telephone number is (571) 272-2102. The examiner can normally be reached on Monday-Friday 8:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (571) 272-1957. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

10/13/05
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Art Unit 2841



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